RAQUEL E. FLESKES

CURRICULUM VITAE

University of Connecticut, Department of Anthropology
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I am an anthropological geneticist who uses ancient DNA and population genetics with a community-participatory framework to understand European colonization histories and the African Diaspora in colonial period North America.

EDUCATION

National Science Foundation Post-Doctoral Fellow, Present
University of Connecticut, Storrs, CT
Supervisor: Dr. Deborah Bolnick
Project: *"Genomic Structure of Founder Events in the 17th Century Chesapeake"*

Ph.D., University of Pennsylvania, Philadelphia, PA 2021
Ph.D. Candidate in Biological Anthropology
Thesis Advisor: Dr. Theodore Schurr, Department of Anthropology
Thesis: "*Ancient DNA Perspectives on 17th & 18th Century Eastern North America: Insights into European Colonization and the African Diaspora*"

B.A., University of Maryland, College Park, MD 2014
B.A. in Anthropology with Honors
Thesis Advisor: Dr. Jenn Shafer, Department of Anthropology
Thesis: "*Facilitating a Deep Learning Approach for University Students in an Interdisciplinary Lab Setting: A Case Study Approach to the Formulation of the Introduction to Ecological and Evolutionary Laboratory Course at the University of Maryland"*

PUBLICATIONS

Journal Manuscripts (Peer Reviewed):

In preparation **Fleskes, R. E.,** Cabana, G. S., Gilmore, J., Oubré, L., Mishoe, G., Ofunniyin, A. A., Schurr, T. G. Whole Genome Sequencing Reveals Diverse Origins of Enslaved Africans in 18th Century Charleston, South Carolina.

In preparation **Fleskes, R. E.,** Bruwelheide, K. S., Owsley, D. W., Griffith, D. R., Barca, K. G., Cabana, G. S., & Schurr, T. G. Genomic Insights into Colonial Settlement and the African Diaspora at a 17th Century North American Site.

2021 **Fleskes, R. E**., Ofunniyin, A. A., Gilmore, J. K., Poplin, E., Abel, S. M., Bueschgen, W. D., Juarez, C., Butler, N., Mishoe, G., Oubré, L., Cabana, G. S., & Schurr, T. G. Ancestry, Health, and Lived Experiences of Enslaved Africans in 18th Century Charleston: An Osteobiographical Analysis. *American Journal of Physical Anthropology**, 175(1), 3-24. https://doi.org/10.1002/ajpa.24149
***Selected as the Editor's Choice Article**

2019 **Fleskes, R. E**., Bruwelheide, K. S., West, F. L., Owsley, D. W., Griffith, D. R., Barca, K. G., Cabana, G. C., Schurr, T. G. Ancient DNA and bioarchaeological perspectives on European and African diversity and relationships on the colonial Delaware frontier. *American Journal of Physical Anthropology*, *170*(2), 232–245. https://doi.org/10.1002/ajpa.23887

Book Chapters (Peer-Reviewed):

2018 Owsley, D., Bruwelheide, K., Barca, K., Reidy, S., **Fleskes, R.** *Lives Lost: What Burial Vault Studies Reveal About Eighteenth-Century Identities*. In: Stone P, editor. Bioarchaeological Analyses and Bodies: New Ways of Knowing Anatomical and Archaeological Skeletal Collections. Cham: Springer. Pp. 111-145.

Opinion Pieces:

2020 **Fleskes, R**. *The Tip of the Iceberg: Structural Violence in the Archaeological Record.* The Thinking Republic Magazine.

Blog Posts:

2020 **Fleskes, R**., Joanna Gilmore, J., Grant Mishoe, G., La'Sheia Oubré, L., and Schurr, T. *Stories about the Anson Street Ancestors and the Legacy of Dr. O.* The Gullah Society Blog.

RESEARCH EXPERIENCE

Active Instutitonal Review Board Protocols:

2021 – Present The University of Connecicut, IRB #7, Protocol #H21-0143. "*Genomic Structure of Founder Events in the 17th Century Chesapeake*". PI Fleskes, Co-PI Bolnick.

2018 – Present The University of Pennsylvania, IRB #8, Protocol #829343, "*Enhancing African Descendant Identity through Community Engagement and DNA Analysis*". PI Schurr, Co-PI Fleskes.

2017 – Present The University of Pennsylvania, IRB #8, Protocol # 825389, "*Genetic Ancestry of the Colonial Chesapeake: Insights into the Trans-Atlantic Colonization of the United States*". PI Schurr, Co-PI Fleskes.

Active Research Projects:

2020 – Present ***Jamestown 1607 Burial Ground Project (PI):*** Whole genomes of 10 individuals interred at the A.D. 1607 Burial Ground in Jamestown, Virigina. See ***Colonial Chesapeake DNA Project*** for more details. *Funding Resources:* NSF. *Collaborators*: Jamestown Rediscovery Foundation.

2016 – Present ***Colonial Chesapeake DNA Project (PI):*** Whole genomes of 17th century European and African individuals in Maryland, Virgina and Delaware, and autosomal micro-array data from 17th century descendent populations to understand how biological kinship impacted historic settlement patterns and shaped subsequent genetic diversity. *Funding Resources:* NSF, National Geographic, others. *Collaborators:* St. Mary's Historical Society, Smithsonian Institution, Maryland Historic Trust, University of Tennessee, University of Pennsylvania.

2017 - Present ***Anson Street African Burial Ground Project (co-PI):*** Whole genomes of 18th century African and autosomal micro-array data from contemporary African Americans in Charleston, South Carolina to understand regional African population history using a community-based engagement framework. *Funding Resources*: National Geographic,

others. *Collaborators*: The Gullah Society, College of Charleston, University of Tennessee, University of Pennsylvania.

2019 – Present ***St. Mary's Bascilica Project (Researcher):*** Whole genomes of 18th century church burials from Norfolk, Virigina to investigate early European and African ancestry and relatedness in religious burial contexts. *Collaborators:* Fairfeild Foundation, Virgina Department of Historic Resources, University of Pennsylvania.

Visiting Researcher:

2018 – 2019 **Ancient DNA Laboratory**. DNA extraction from petrosal (direct and minimally invasive sampling techniques), tooth, and post-cranial samples in a clean room laboratory. Protocol development for existing DNA extraction, library prepration, enrichment, and quantification protocols. The University of Tennessee, Knoxville TN, September 1 – August 16.

Previous Research Experience:

2015 **Human Mitochondrial DNA Diversity in Puerto Rico.** Mitochondrial control region extraction, sequencing, and haplogroup characterization to investigate early population history of the Carribean. University of Pennsylvania; Supervisor: Dr. Theodore Schurr.

2014 **Human Osteology.** Human osteological characterization to assist in the organization of various collections. Smithsonian Institution's National Museum of Natural History; Supervisor: Dr. Douglas Owsley.

2012 – 2013 **Paleoproteomics.** Extraction, gel purification, and MALDI-TOF Mass Spectrometry analysis to characterize protein diagensis patterns in ancient human bone. National Science Foundation's Research Experience for Undergraduate Sites (REU) at the Smithsonian Institution's Museum Conservation Institute; Supervisor: Dr. Mehdi Moini.

GRANTS AND FELLOWSHIPS

Fellowships:

2021-2023	[$138,000.00]	Post-Doctoral Fellowship, National Science Foundation (SPRF-FR): "Genomic Structure of Founder Events in the 17th Century Chesapeake", #2105384. [**PI: Fleskes,** Co-PI: Dr. Deborah Bolnick]
Declined		Postdoctoral Fellowship at the Society of Fellows, Dartmouth College
2020-2021	[$30,568.00]	SAS Dissertation Completion Fellowship, University of Pennsylvania
2019-2020	[$26,797.00]	Wolf Humanities Center Graduate Research Assistantship, University of Pennsylvania
2018-2019	[$26,797.00]	Benjamin Franklin Fellowship, University of Pennsylvania.
2014-2018	[$107,188.00]	Francis E. Johnston Fellow, University of Pennsylvania
2012-2013	[$12,000.00]	National Science Foundation's Research Experience for Undergraduate Sites (REU); Smithsonian Institution's Museum Conservation Institute

Research Grants:

2018 [$32,200.00] "Doctoral Dissertation Research: Genetic Diversity of the Colonial Chesapeake: Insights into Kinship and the Trans-Atlantic Colonization of the United States." National Science Foundation (NSF-DDRIG), #1825583. [PI: Dr. Theodore Schurr, **Co-PI: Fleskes**]

2018 [$24,037.95] "Ancient and Modern DNA Diversity in African-Americans: Insights into

		the African Diaspora and Charleston's Historic Past." National Geographic Society, #NGS-52378R-18. [PI: Dr. Ade Ofunniyin, **Co-PI: Fleskes**]
2018	[$7,530.00]	"Genetic Diversity in the African-American Community of Charleston, South Carolina." National Geographic Society, #EC-52936R-18. [PI: Oduwole, **Co-PI: Fleskes**]
2017	[$9,946.00]	"Importance of Kinship in the 17th Century Chesapeake Colonial Frontier: Insights into Mitochondrial relatedness and diversity at Patuxent Point." National Geographic Society, #HJ-056ER-17. [**PI: Fleskes**]
2017	[$1,432.00]	University of Pennsylvania, Dept. of Anthropology Summer Field Funds
2016	[$2,500.00]	University of Pennsylvania, Dept. of Anthropology Summer Field Funds

Travel & Technology Grants:

2020	[$500.00]	University of Pennsylvania, Spring 2020 Technology Grant
2020	[$500.00]	American Association of Physical Anthropologists (AAPA) Pollitzer Student Travel Award
2017	[$1,050.00]	University of Pennsylvania, Museum of Anthropology and Archaeology Student Field Funds
2017	[$280.00]	University of Pennsylvania, Graduate and Professional Student Assembly Student Travel Funds
2016	[$1,050.00]	University of Pennsylvania, Museum of Anthropology and Archaeology Student Field Funds

PRESENTATIONS AND PUBLISHED ABSTRACTS

Invited Presentations:

2021 "Ancient DNA in the Colonial Chesapeake". Jamestown Rediscovery Foundation. September 30.

2021 The Anson Street African Burial Ground Project: Ancient DNA Ethics & Considerations. American Society for Human Genetics, Responsible Research on Ancient DNA Panel. March 8.

2021 Anthropological Perspectives on the Biology of Race and Racism Panel. Rowan University, Anthropology & Sociology Department. March 19.

2020 Historical Genetics: Insights from Ancient DNA to the study of early Colonial America. West Chester University, Anthropology & Sociology Department Colloquium Series. November 16.

2020 Ancient DNA & Colonial North America. National Geographic, Washington D.C., February 28.

2020 A Historical Genomics Approach using Ancient DNA & Bioarcheology to the Study of Colonial America*. World Archaeological Congress, Prague Czech Republic, July 5-10. (*rescheduled due to COVID-19)

2020 Ancient DNA in Colonial North America: Patuxent Point and the Anson Street Burial Project. University of Pennsylvania, New Avenues in Archaeological Science*. (*canceled due to COVID-19)

2019 Colonization on the Delaware Frontier: Insights from Avery's Rest. Delaware Valley Archaeology and History Symposium, Dover DE, December 7.

2019 Avery's Rest: Bioarcheological Perspectives. Archaeological Society of Delaware Annual Meeting, Felton DE, June 15.

2018 Avery's Rest: A Multi-Method Investigation of Kinship & Lifeways in the 17th century Chesapeake. The University of Tennessee, Department of Anthropology, Knoxville TN, February 19.

2017 DNA & the Peopling of the Caribbean. Pre-Columbian Society. University of Pennsylvania, Philadelphia PA, February 11.

Conferences & Panels Organized:

2021 "May Their Hearts be Perfectly at Peace: The Anson Street African Burial Project". Executive Panel Session. American Anthropological Association Annual Meeting, Baltimore MD, November 19. [Role: **Panel Co-Organizer**].

2020 "Forging Kinships". Graduate Symposium for the Wolf Humanities Center Annual Forum on Kinship. University of Pennsylvania, Philadelphia PA, February 21. [Role: **Primary Conference Organizer**].

Conference Podium Presentations:

2021 **Fleskes, R**., Brown, D., Schurr, T. Ancient DNA Research during a Global Pandemic: Insights from Fieldwork at St. Mary's Basilica in Norfolk, VA. Annual Meeting of the Society for Historical Archaeology. January 8. (online).

2020 **Fleskes, R**., Ofunniyin, A., Gilmore, J., Cabana, G., Schurr, T. African mitogenome diversity in 18th century Charleston, South Carolina*. 89th Annual Meeting of the American Association of Physical Anthropologists. Los Angeles LA, April. (*presented at the 2021 Virtual Conference)

2020 **Fleskes, R.,** Cabana, G., Schurr, T. Genomic Insights into 17th century Maryland Kinship and Labor at Patuxent Point*. 85th Annual Meeting of the Society for American Archaeology. Austin TX, April 24. (*canceled due to COVID-19)

2019 **Fleskes, R.** Historical Genetics: A Multidisciplinary Investigation of Frontier Lifeways in the Chesapeake. Meeting of the American Society for Ethnohistory. State College PA, September 28.

2017 **Fleskes, R.,** West, F., Cabana, G., and Schurr, T. Ancient DNA Analysis of a Late 17th Century Plantation site in Delaware Yields Considerable Matrilineal Diversity and Relatedness in Early Colonists. 86th Annual Meeting of the American Association of Physical Anthropologists. New Orleans LA, April 19-22.

2013 **Fleskes, R.,** Moini, M. Protein Deterioration Overtime in Ancient Bone Specimens. Anthroplus Conference. University of Maryland, College Park MD, April 13.

2013 **Fleskes, R.,** Moini, M. Biological Clocks: High throughput identification of deterioration markers and dating of museums' proteinaceous specimens. 8th Annual ACC Meeting of the Minds. Wake Forest University, Winston-Salem NC, April 6.

Conference Poster Presentations:

2018 **Fleskes, R.,** West, F., Cabana, G., and Schurr, T. Ancient DNA Perspectives on Kinship & Racialized Labor on a 17th century Delaware Frontier Site. 83rd Annual Meeting of the Society for American Archaeology. Washington D.C., April 11-15.

2016 **Fleskes, R.,** Vilar, M., Melendez, C., Schurr, T. Genetic diversity of A2 and C1 haplotypes in Puerto Rico: Implications for initial migration and settlement patterns of the Caribbean. 85th Annual Meeting of the American Association of Physical Anthropologists Annual Conference. Atlanta GA, March 27-30.

2013 Moini, M., **Fleskes, R**., Rollman, C. Effect of Aging and Radiation on Museums' Proteinaceous Specimens at Molecular Levels. 61st American Society for Mass Spectrometry Conference on Mass Spectrometry and Allied Topics. Minneapolis MN, June 9-13.

TEACHING AND TRAINING EXPERIENCE

Primary Instructor of Record:

2020 DNA & Human Society, University of Pennsylvania, Penn Summer College Prep Series. [online].

2019 Introduction to Human Evolution, Department of Anthropology, University of Pennsylvania.

2019 DNA & Human Society, University of Pennsylvania, Penn Summer College Prep Series.

2017 Human Variation, Department of Sociology & Anthropology, Rowan University.

Independent Study:
2021 Anson Street African Burial Ground Project: Molecular Applications in Colonial Health & Disease. Student: Shriya Amin, Clemson University.

Guest Lecturer
2021 DNA Reveals Hidden Stories, Montgomery College.
2021 Introduction to Bioarcheology, Department of Sociology & Anthropology, The College of Charleston.
2021 Introduction to Archaeology, Department of Anthropology, University of Pennsylvania.
2018 Becoming Human, Department of Anthropology, University of Pennsylvania.

Graduate Teaching Assistant:
2017, 2018 Becoming Human, Department of Anthropology, University of Pennsylvania.
2016 Sex and Human Nature, Department of Anthropology, University of Pennsylvania.
2015 Introduction to Human Evolution, Department of Anthropology, University of Pennsylvania.

Course Development Research:
2012 - 2014 Active learning integration into biological anthropology laboratory curriculum to achieve greater learning outcomes, as assessed by longitudinal course survey data. University of Maryland, Department of Anthropology Undergraduate Honors Thesis; Supervisor: Dr. Jenn Shafer.

Undergraduate Teaching Assistant:
2014, 2015 Introduction to Ecological and Evolutionary Anthropology, Department of Anthropology, University of Maryland.
2013 Introduction to Biological Anthropology, Department of Anthropology, University of Maryland.

Laboratory and Field Methods Training:
2020 Contamination prevention for ancient DNA sample collection in burial contexts for archaeological staff at the Fairfeild Foundation.
2019 Ancient DNA Library Preparation Methods for University of Tennessee Masters Student.
2018 Ancient DNA Extraction Methods for University of Pennsylvania Faculty Member.
2018 Mitochondrial DNA Methods for College of Charleston Undergraduate Student.
2017 Mitochondrial DNA Methods for University of Maryland Undergraduate Student.

MEDIA COVERAGE

Interviews & Features:
2021 WHYY's You Oughta Know, Archeological Discovery at Avery's Rest. Television Segment. March 2.
2021 The Saving Delaware History Podcast, Avery's Rest: The 17th Century Chesapeake Ancestry Project. Podcast Interview. January 1.
2020 Delaware Historical and Cultural Affairs, Avery's Rest – A look into the DNA Investigations. YouTube presentation. September 28.
2020 Delaware Archaeological Society, Digging Delaware Interview Series. August 3.
2019 ABC 4 News, Charleston SC. May 6.

2019 **College of Charleston**, African American Studies Program *Port of Entry* Podcast, "DNA Doesn't Lie".

Research Project Coverage (Selected):

2021. **The Virginia Gazette**, "First Baptist Church descendants meet with experts, discuss future of historic burials found at dig site". November 8.
2020 **Penn Today**, "Uncovered burial ground reveals history of 36 enslaved Africans in 18th-century Charleston." October 20.
2020 **The Catholic Virginian,** "Discoveries could aid in discovering development of Church in Norfolk." June 10.
2019 **Forbes Magazine**, "DNA Analysis from Colonial Delaware Skeletons Reveals Beginnings of American Slave Trade". December 19.
2019 **National Geographic Magazine**, "Digging for the life stories of long-forgotten slaves". December 11.
2019 **The Post and Courtier**, "Tears and celebration mark Charleston reburial of skeletal remains of 36 people". May 4.
2019 **ABC 4 News**, "DNA reveals long history of African-Americans found in downtown Charleston". May 5.
2019 **News Channel 2**, "DNA Research of African Remains Found at Gaillard Center to be revealed Wednesday". February 27.
2018 **The Post and Courier**, "Thanks to DNA research, 80 Charlestonians of African descent may learn more about their roots". August 1.
2018 **Charleston City Paper**, "Gullah Society hosts DNA workshop this Saturday as part of Anson Street Burials project". May 16.
2017 **The Washington Post**, "An archaeological dig unearths one of the earliest slave remains in Delaware." December 5.

HONORS AND AWARDS

2021 Outstanding Trainee Presentation in Anthropological Genetics, American Association of Anthropological Genetics
2020 Pollitzer Student Travel Award, American Association of Physical Anthropologists.
2015 High Pass on First Year Doctoral Examinations.
2013 Student Paper Prize. Anthroplus Conference, University of Maryland, College Park MD.

COMMUNITY OUTREACH

Outreach Programs:

2021 Anson Street African Burial Ground Project Fall 2021 Webinar Series. September – December.
2019 National Geographic Human Journey Challenge, February – May.
2015 West Philadelphia Tutoring Project. University of Pennsylvania, January – June.
2011 Forensic Anthropology Lab Visitor Volunteer for the 'Written in Bone' exhibit. National Museum of Natural History, September – June.

Outreach Presentations:

2021 "DNA Analysis of Human Remains". First Baptist Church Descendant Community Human Remains Discussion. Williamsburg VA, Oct 30.
2021 "Anson Street Ancestors DNA Project Update". Anson Street African Burial Ground Project Fall 2021 Webinar Series #2.

2021 "Community DNA Research Project Update". Anson Street African Burial Ground Project Fall 2021 Webinar Series #1.
2020 "Chesapeake DNA Study: Project Updates and DNA Testing Results". Leonardtown MD, February 29.
2019 Meeting Street Academy 4th and 5th grade Classroom Presentation. Charleston SC, September 13.
2019 North Charleston High School Forensics Classroom Presentation. Charleston SC, September 11.
2019 Cape Henry Collegiate 3rd grade Classroom Visit. Virginia Beach VA, May 24.
2019 Portsmouth Public School 4th grade Classroom Visit. Virginia Beach VA, May 24.
2019 "Understanding DNA Extraction". Charleston SC, May 7.
2019 "Anson Street Burial Project: Ancient DNA Update". Charleston SC, February 27.
2018 "Project Update: DNA Analysis of the Anson Street Burials". Charleston SC, November 7.
2018 "Ancient DNA & African American History". Charleston SC, May 19.
2018 "Visualization of DNA: Insight into Objectification & Impact on Identity", Teen Science Café hosted by the University of Pennsylvania, April 25.
2016 "Genetics and Race". University of Pennsylvania Public Classroom Lecture Series, October 24.

SERVICE

Reviewer
2021 *American Journal of Physical Anthropology*

Graduate Student Representative. Biological Anthropology Faculty Hire Search Committee, University of Pennsylvania. 2017.

PROFESSIONAL AFFILIATIONS

American Association of Anthropological Genetics
American Association of Physical Anthropologists
American Anthropological Association
American Society for Ethnohistory
Society of American Archaeology

REFERENCES

Dr. Theodore Schurr
Professor
Department of Anthropology
University of Pennsylvania

Dr. Deborah Bolnick
Associate Professor
Department of Anthropology
University of Connecticut

Dr. Graciela Cabana
Associate Professor
Department of Anthropology
University of Tennessee

Dr. Douglas Owsley
Curator of Biological Anthropology
National Museum of Natural History
Smithsonian Institution